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(54) Title: HYDROLIQUEFACTION OF CARBONACEOUS FEEDSTOCK

(57) Abstract: Provided herein is a method for the production of hydrocarbon composition, comprising: i) providing carbonaceous feedstock (1); ii) subjecting the carbonaceous feedstock (a) to catalytic hydroliquefaction (10) in the presence of hydrogen (91) to obtain a product mixture (11); iii) separating (20) the product mixture (11) into liquid a first liquid fraction (61) and a first gaseous fraction (21); iv) recovering at least part of H₂ from the first gaseous fraction (21) to obtain a H₂ depleted second gaseous fraction (22), and recirculating (93) at least part of the recovered H₂ to step ii); v) subjecting at least part of the H₂ depleted second gaseous fraction (22) to partial oxygenation (POx) to convert (40) at least part of the light hydrocarbons comprised in the H₂ depleted first gaseous fraction (22) to syngas to obtain a third gaseous fraction comprising syngas; vi) converting in the presence of water steam at least part of the carbon monoxide (CO) comprised in the third gaseous fraction to carbon dioxide (CO₂) and hydrogen (H₂) to obtain a CO₂ and H₂ enriched third gaseous fraction (23); vii) recovering (50) at least part of H₂ (94) from the CO₂ and H₂ enriched third gaseous fraction (23) and recirculating at least part of the recovered H₂ to step ii); and viii) recovering the first liquid fraction (b-1) to provide a liquid hydrocarbon composition.

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